

REMARKS

Claims 1-7 and 9-12 remain pending in the present Application.

Filed concurrently herewith is a Declaration under 37 CFR 1.132 providing comparative data, which provides clear evidence of unexpected results.

Reconsideration and allowance of the claims are respectfully requested in view of the following remarks.

Advisory Action

Applicants have submitted a Declaration under 37 CFR 1.132 that provides comparative data and clearly demonstrates unexpected results with regard to the substitution at the ortho position as claimed. The comments by the Office in the Advisory Action failed to address the significance of these results. Applicants respectfully request that the Examiner consider the Declaration.

Moreover, the Examiner states in the Advisory Action: "Applicant argues that Thompson does not disclose or suggest any substitution at the ortho position, This statement is technically incorrect. There is in the response submitted no argument that Thompson does not disclose or suggest any substitution at the ortho position. Applicant only argues, "nor does Thompson disclose or suggest that any substituents at the ortho position to the chemical bond is preferred". This distinction is important since it is well established patent law that an applicant can rebut a prima facie case of obviousness by presenting comparative test data showing that the claimed invention possesses unexpectedly improved properties or properties that the prior art does not have. *In re Dillon*, 919 F.2d 688, 692-93, 16 U.S.P.Q.2d 1987, 1901 (Fed. Cir. 1990). As discussed in the Declaration and in the arguments below, ortho substitution as claimed provides unexpectedly high emission luminance and long lifetime relative to similar compounds that do not have ortho substitution.

Furthermore, as enunciated in *In re Dillon*, the Office is expected to consider any teaching or suggestion in the reference of a preferred species or subspecies that is significantly different in

structure from the claimed species. Thompson explicitly refers to CBP as the preferred species. As demonstrated in the Declaration, the ortho substitution provided unexpected properties not provided by CBP. MPEP 2144.08 is clear that such a teaching may weigh against selecting the claimed species or subgenus and thus against a determination of obviousness. See also *Baird* F3.d at 382-383, 29 USPQ2d at 1552 (reversing obviousness rejection of species in view of large size of genus and disclosed optimum species which differed greatly from and were more complex than the claimed species); and *Jones*, 958 F2d at 350, 221 USPQ2d at 1943 (reversing obviousness rejection over novel dicamba salt with acyclic structure over broad prior art genus encompassing claimed salt, wherein disclosed examples of genus were dissimilar in structure, lacking an ether linkage or being cyclic). MPEP 2144.08 goes on further to state that “teachings of preferred species (i.e., CBP) of a complex nature within a disclosed genus may not motivate an artisan of ordinary skill to make similar complex species and thus teach away from making simple species within the genus (i.e., ortho substituted compounds).

It is respectfully requested that the Examiner reconsider the Declaration demonstrating the unexpected properties associated with the claimed ortho substitution as well as the teachings provided in Thompson that the CBP compound is preferred.

Claim Rejections Under 35 U.S.C. § 103

Claims 1-7 and 9-12 stand rejected under 35 U.S.C. § 103(a), as allegedly unpatentable over Thompson et al. (U.S. Pat. No. 6,902,830). Applicants respectfully traverse this rejection.

For an obviousness rejection to be proper, the Examiner must meet the burden of establishing that all elements of the invention are disclosed in the prior art; and that the prior art relied upon, or knowledge generally available in the art at the time of the invention, must provide some suggestion or incentive that would have motivated the skilled artisan to modify a reference or combined references. *In re Fine*, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988). The obviousness inquiry also requires consideration of common knowledge and common sense. *KSR Int'l Co. v. Teleflex Inc.*, 127 S.Ct. 1727, 1742-43 (2007); *DyStar Textilfarben GmbH & Co. Deutschland KG v. C.H. Patrick Co.*, 464 F.3d 1356, 1367 (Fed. Cir. 2006) (“Our suggestion test is in actuality

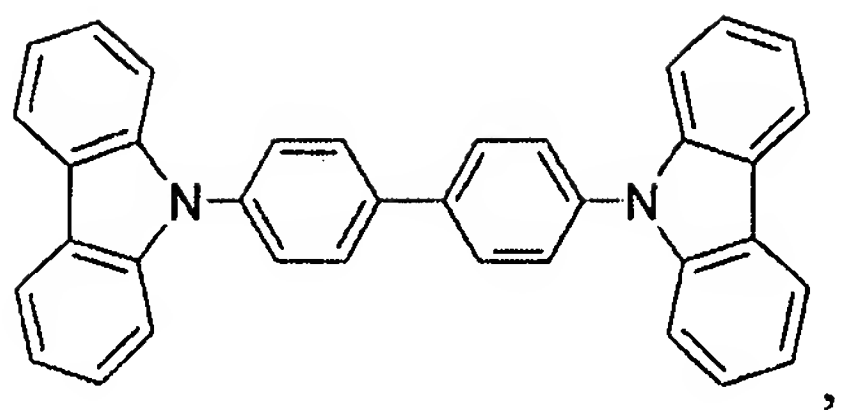
quite flexible and not only permits, but requires, consideration of common knowledge and common sense.”).

The Examiner states that, “Thompson does not specifically disclose that the substituent on the phenylene group is substituted at the ortho position to the chemical bond. Thompson does disclose possible substitution at any available carbon atom by alkyl or aryl groups. Substitution position on the compound effects HOMO and LUMO energies. Therefore it would have been obvious to one of ordinary skill in the art to have the substituent at the ortho position in order to control current-voltage characteristics and the lifetime of the device.” (Office Action dated August 14, 2007, page 3).

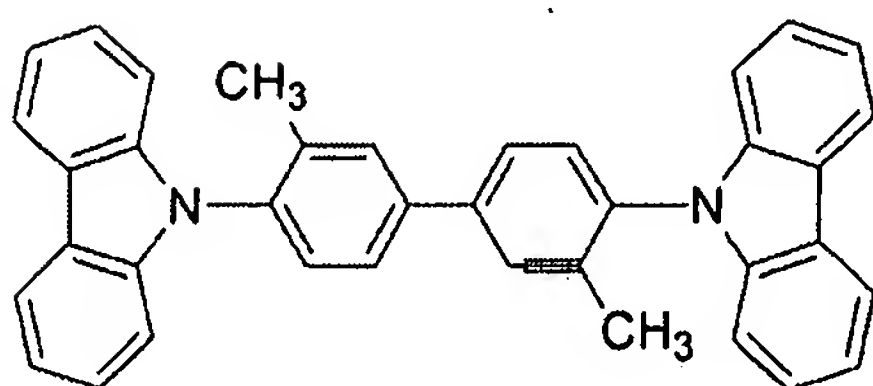
Applicants respectfully disagree with this conclusion. As the Examiner correctly noted in the Office Action, Thompson does not disclose that the substituent on the phenylene group is substituted at the ortho position to the chemical bond. Nor does Thompson disclose or suggest that any substitution at the ortho position to the chemical bond is preferred. Rather, Thompson clearly teaches and suggests the use of CBP as the preferred host material (See Thompson, Cols. 32-33). Further, Thompson, does not disclose any of the advantageous results of Applicants’ claimed invention such as the excellent emission luminance and long life time.

Applicants have provided herewith a Declaration submitted under 37 CFR 1.132, which provides evidence of unexpected results. Comparative tests were carried out employing, as a comparative compound, Thompson’s preferred host material CBP or compound C in which the substituent on the phenylene group is located at the meta position to the chemical bond in the instant formula 1. Compound C is closer in chemical structure to the claimed inventions than CBP and thereof is considered the closest prior art. The comparative compounds were compared to TCBP1 compound, which is commensurate in scope with the claims and includes substitution at the ortho position to the chemical bond. The structures of each compound are provided below:

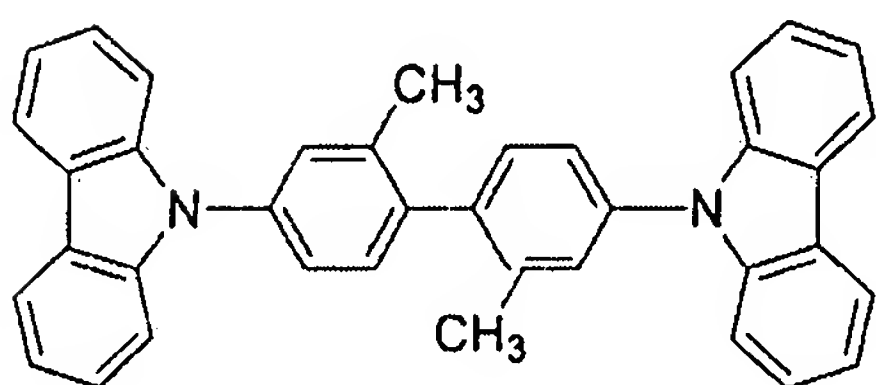
CBP



Compound C



TCBP1



The results provided in the Declaration are reproduced below in Table 4.

Sample OLED No.	Compound used in light emission layer	Reorganization energy (eV)	Emission luminance (%)	Emission lifetime (%)	Remarks
C-1	CBP	0.56	100	100	comparative
C-2	Compound C	0.58	115	103	comparative
I-1	TCBP1	0.41	165	135	invention

As is apparent from Table 4, Compound C, which has a reorganization energy of 0.58, falls outside the claimed host compound and the inventive organic EL element sample OLED I-1 provides high emission luminance and long lifetime as compared with comparative organic EL element sample OLED C-1 employing CBP, which was disclosed in Thompson as being the preferred host material, or comparative organic element OLED C-2 employing compound C, which is structurally closer to the invention than CBP and therefore considered to be the closest prior art. These results are unexpected to one of ordinary skill in the art. Therefore, it would not have been obvious to one of ordinary skill in the art to attain the subject matter of Claims 1, 9, and 10 over Thompson. Given that Claims 1, 9, and 10 are patentably distinguished over Thompson, the claims dependent thereon are patentable over Thompson of at least the same reasons.

In view of the foregoing, the rejection is requested to be withdrawn.

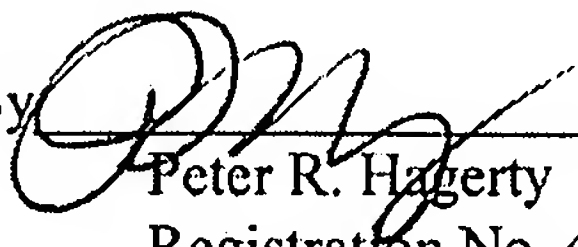
It is believed that the foregoing amendments and remarks fully comply with the Office Action and that the claims herein should now be allowable to Applicants. Accordingly, reconsideration and allowance are requested.

If there are any additional charges with respect to this Amendment or otherwise, please charge them to Deposit Account No. 06-1130.

Respectfully submitted,

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